The South Carolina
Forest Steward
Spring 2003

In This Issue.....

The three lead articles in this newsletter contain both important and time sensitive information for private forest landowners. The first topic is an update concerning the southern pine beetle epidemic and the Governor's Forest Disaster Salvage Council and is followed by a description of standard methods for controlling southern pine beetle. The third article by Bob Franklin covers the new 2002 Farm Bill which contains several provisions for forestry and opportunities for landowners. The remaining articles were borrowed from the North Carolina Cooperative Extension Service and edited for South Carolina. These cover basics of forest management for landowners, where landowners can go for assistance and practical aspects of firewood production.

Larry Nelson and Bob Franklin, Coeditors

Update: Southern Pine Beetle Epidemic

Larry Nelson, Extension Forester, Clemson University

In response to the state's severe southern pine beetle (SPB) outbreak, former governor Hodges reconstituted the Governor's Forest Disaster Salvage Council, and the council remains active under new Governor Mark Sanford. The council's purpose is to develop support and cooperation among timber growers, loggers, industry and state agencies in order to help suppress the current SPB epidemic. The primary approach is to maximize salvage and/or cut and leave operations on infested sites.

Adult southern pine beetle

The council is working to make the best of a difficult situation. Based on the most recent South Carolina Forestry Commission Survey, more than 20 million trees are dead in over 67,000 infested spots. Wood from dead trees is salvageable for pulp for only 6 to 8 months. Getting loggers to harvest infested sites in a timely manner is a major difficulty. The large volume of wood scattered over such a high number of sites is only part of the problem. In addition, southern pine beetle infestations always seem to coincide with and contribute to a saturated and suppressed pine pulp market. Strategies are needed to support incentives for industry and loggers in order to maximize the effort.

The possibility exists that the current outbreak may decline somewhat in 2003. However, for now you should assume that it will not and plan accordingly. Included below are a few points of advice for landowners:

- Wet weather can render poorly drained sites inoperable for harvesting and create demand and better prices for timber located on drier upland sites. With recent rains, some landowners that have had difficulty selling timber might be advised to try again.
- On infested sites, additional timber and acreage may have to be included in order to make a sale attractive to wood buyers and loggers. However, a landowner should consult carefully with a registered forester in order to be sure that the harvest size is in the best interest of the landowner's management objectives.
- Landowners should strongly consider a regeneration plan when entire stands or large acreages are salvaged.

- An alternative to a salvage harvest is the cut-and-leave method. This method is effective on active spots during hot weather (May to October). It allows the landowner to eliminate the infestation without getting involved in a major timber sale. The downside is that the owner generally loses the value of the trees that are left on the ground. A limited amount of money through the Cut-and-Leave Program is available to partially compensate landowners and contractors for labor and other costs. Landowners cutting their own trees can receive $.75/tree for up to 300 trees while the rate for paid contractors is $1.50/tree for up to 350 trees. Contact a local Forestry Commission forester or county ranger for more details.

- On small acreages an alternative to timber regeneration is to manage for wildlife openings. The Wildlife Habitat Incentives Program (WHIP), which is primarily targeted at the development of quail habitat, will pay up to 75% cost share for installing fire breaks, prescribed burns, rotational disking and native grass establishment. This program can be ideal for openings ranging in size from .5 to 5 acres.

New On-Line Site

In conjunction with the Disaster Council, the South Carolina Forestry Commission has established a web site aimed at matching loggers with landowners that have beetle-killed timber. Landowners can log in at www.state.sc.us/forest/spbprogram.htm. The new site will maintain a registry of loggers interested in cutting beetle wood, lists of consulting foresters, timber buyers, and cut-and-leave contractors. Landowners looking for loggers to cut their bugwood can request to be listed on the site. Those without access to the internet can call the Southern Pine Beetle Hotline at 1-800-517-9645.

For additional information on this topic contact your local South Carolina Forestry Commission office or the Clemson Extension Service.

Salvage Removal and Cut and Leave:

Methods for Controlling Southern Pine Beetle Infestations

Donald L. Ham, Extension Forester, Department of Forest Resources

Forest insect and disease pests cause an estimated growth loss and mortality in excess of $8 million each year in South Carolina forests. An integrated pest management (IPM) approach on your forest lands could significantly minimize your potential losses. Efficient utilization of damaged or killed timber is an important part of forest IPM.

The Southern Pine Beetle

The Southern Pine Beetle (SPB) is the most destructive pine bark beetle in the South. SPB infestations commonly originate in poorly managed or overstocked stands. Once underway, outbreaks

Tree Stage	Symptom				
	Foliage	**Pitch Tubes**	**Bark**	**Exit Holes**	**Ambrosia Beetle Dust**
Freshly Infested	Green	Soft, white light pink	Tight, hard to remove	None	None
Infested With Developing Brood	Green trees with larvae, fade to yellow before brood emerges	White, hardened	Loose, peels easily	Few, associated with attacking adult	White, localized areas around base of trees
Vacated, Dead Tree	Red, needles falling	Hard, yellow, crumbles easily	Very loose, easily removed	Numerous	Abundant at base of trees

can spread rapidly, killing trees over hundreds of acres, and move into managed stands.

SPB infestations can be identified in several ways. The most obvious symptom is the change in the needles of the tree crown from green to yellowish to reddish brown. Other symptoms are listed in the table at the bottom of page 2.

Initial infestation is followed by the development of a "spot." The spot usually spreads in one direction as new trees are attacked in an area called the "active head." (see Figure 1)

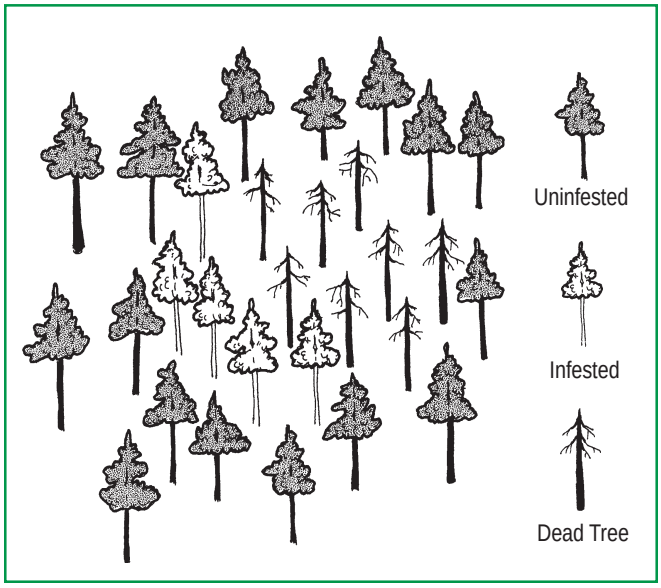

Figure 1. Untreated southern pine beetle spot

The risk of SPB infestations can be reduced by practicing proper forest management. However, when infestations (spots) do occur, direct control tactics are needed to minimize timber losses.

Salvage Removal

Salvage removal is the preferred control method since infested trees are removed and utilized, giving the landowner some financial return. For salvage to be effective, SPB infested trees must be removed very quickly. An adequate buffer strip of uninfested green trees must also be cut around the active head(s) or spreading edge(s) of the spot.

When to Apply Salvage Removal

Salvage may be applied at any time of the year when ground conditions permit. Prompt treatment after spot detection will minimize additional timber loss from spot growth. When salvage of a spot is not feasible or must be delayed for long periods, active infestations should be treated by the cut-and-leave method.

How to Apply Salvage Removal

1. After a spot has been located, identify all infested trees (those with SPB eggs, larvae, pupae, or attacking adults) within the spot. The most recently attacked trees will be in the active head(s) of the spot. Spots with the most infested trees should be marked for treatment first.

2. With marking paint or flagging, mark the salvage boundaries. If freshly attacked trees are present, include a horseshoe-shaped buffer strip of green, uninfested trees around the active head(s) of the spot. The buffer should be as wide as the average height of the trees in the spot (40 to 60 feet). The buffer is necessary to disrupt spot growth and to ensure that no freshly attacked trees are left.

3. Salvage should begin as soon as possible after marking the boundaries. Cut and remove buffer trees first to prevent further spot growth. Continue harvesting toward the spot origin until only those dead trees that have deteriorated beyond use remain (see Figure 2).

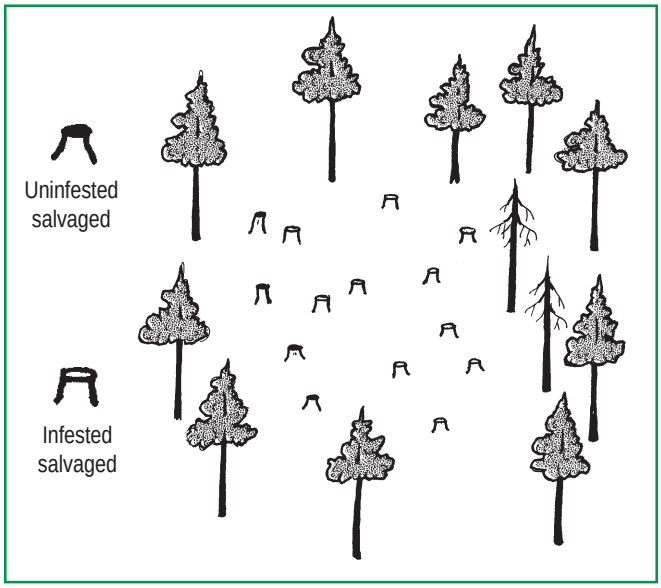

Figure 2. SPB spot after salvage removal

4. Do not deck infested logs next to green trees since emerging beetles may attack them.

5. Avoid damaging standing green trees along skid trails since open wounds attract certain bark beetles.

6. After two weeks check the treated spot for reinfestation (breakouts) around the edges of the spot. Treat breakouts as needed.

The buffer strip of green trees must be included to assure effective control. If salvage operations are delayed, active spots may have to be marked again before harvesting to account for additional spot growth.

Financial Return from Salvage Removal

The financial return from the salvage of SPB-infested timber will vary according to several factors. These include the total volume and size of the trees, their current market value, the accessibility of the spot, and the type of harvesting equipment used. After the trees within the marked boundaries of a SPB spot have been harvested, additional uninfested trees may be selectively thinned from the adjacent stand, if needed, to complete the final load or increase the total volume to improve the price received.

Cut and Leave

The cut-and-leave method is an effective means of controlling small remote spots (10 to 50 infested trees) that cannot be salvaged. The method involves felling infested trees and leaving them in the forest. The treatment disrupts spot growth and disperses the emerging adult beetles. Spots should be treated only if they contain freshly attacked trees.

When to Apply Cut-and-Leave

Cut-and-leave should be used during the period when SPB spots are expanding (approximately May to October). This method is most effective on spots of 10 to 50 active trees. Spots with fewer than 10 infested trees usually do not need to be treated. On the other hand, spots with more than 50 infested trees can be treated using cut-and-leave if the trees will eventually be salvaged. In every case, prompt treatment after detection is recommended.

How to Apply Cut-and-Leave

1. Select spots with 10 to 50 infested trees. Some must have fresh attacks. Spots with a high proportion of freshly attacked trees should be treated first.

2. Mark and fell all actively infested trees toward the center of the spot (see Figure 3).

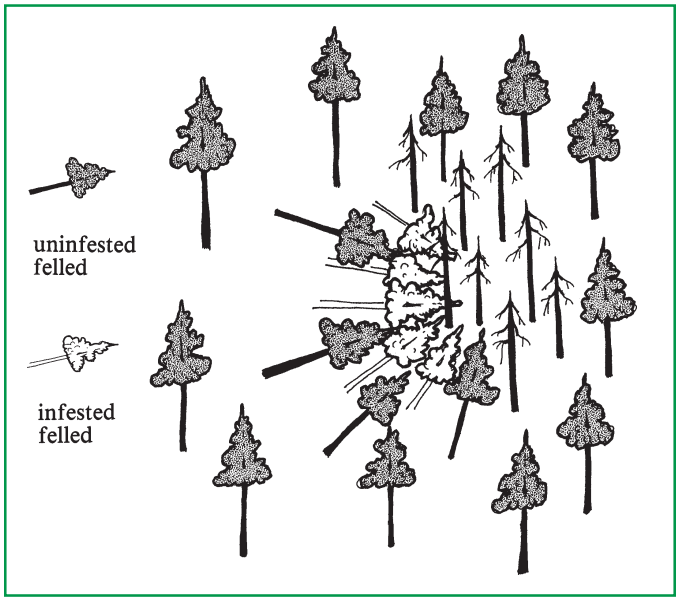

Figure 3. SPB spot after cut-and-leave

3. Mark and fell a horseshoe-shaped buffer strip of green uninfested trees around the active head of the spot. Fell them toward the center of the spot and leave them on the ground. In small spots the buffer may encircle the entire spot. However, the buffer should be no wider than the average height of the trees in the spot. The buffer is necessary to ensure that no freshly attacked trees are left standing.

4. Dead trees with no bark beetles remaining should be left standing. Beetle parasites and predators complete their development in these trees and emerge to help control beetle populations. The trees also serve as den sites for certain woodpecker species.

5. After two weeks, check the treated spot for reinfestations (breakouts) around the edges of the spot. Treat breakouts as needed.

Advantages and Disadvantages

Cut-and-leave is practical, relatively inexpensive, and requires a minimum of manpower and equipment. The treatment can be applied soon after spots are detected, even when salvage crews are not available or in areas not readily accessible to salvage equipment.

The main disadvantage is that a buffer strip of green, uninfested trees must be felled and left around each spot to assure that all newly attacked trees are included in the treatment. However, if salvage becomes feasible at a later date, all felled trees can be removed and utilized.

Glossary of Terms

- **Active Head(s) of Spot** - Area(s) of the spot containing beetles in the process of attacking green pines.
- **Infested Tree** - A pine containing southern pine beetle broods (eggs, larvae, or pupae) or attacking adults.
- **Buffer Strip** - A group of green, uninfested pines that are cut adjacent to the most recently infested trees in the spot.
- **Spot** - A group of dead or dying pine trees infested by the southern pine beetle.
- **Spot Breakout** - An infestation of green pines on the outer edge of a spot following a control treatment.
- **Spot Growth** - The natural expansion of untreated spots as additional green pines become infested in the active head of a spot.
- **Southern Pine Beetle** - A small, dark brown beetle that can be identified by the S-shaped galleries or tunnels that it makes under the bark of attacked trees.

Additional Information

Keeping your pine timber stands healthy and vigorous, and having a good knowledge of the southern pine beetle habits and symptoms is essential to effectively deal with this destructive pest. Professional advice and assistance is available through the South Carolina Forestry Commission, Clemson University Cooperative Extension Service, U.S.D.A. Forest Service, forest industry personnel, and private consulting foresters.

The 2002 Farm Bill & Forestry

Bob Franklin, Area Forestry and Wildlife Agent, Clemson Extension

"It's a good time to be a Tree farmer," according to Bob Simpson, Vice President of the American Forest Foundation. He made that comment in an article in the September-October 2002 issue of Tree Farmer magazine in reference to the forestry and natural resource related provisions of the 2002 Farm Bill.

In the recently-signed bill, five of the ten titles specifically mention forestry and one is entirely about forestry. The two programs of most interest to forest landowners are the Forest Land Enhancement Program (FLEP) and the Environmental Quality Incentives Program (EQIP).

FLEP is replacing the Forestry Incentives Program (FIP) and the Stewardship Incentives Program (SIP). FLEP is designed to encourage long-term sustainability on nonindustrial private forest (NIPF) lands by providing educational, technical and financial assistance through state agencies assisting private landowners who are actively managing their forests. FLEP allows the states to have a greater amount of flexibility and authority in how this program will be implemented.

At the national level, FLEP brings a mandatory $100 million dollars in cost-share funds. It is guaranteed for the next five years. To be eligible to receive up to 75 percent cost-share, NIPF owners must develop and implement a management plan approved by the State Forester. Landowners applying for FLEP monies can treat up to 1,000 acres at a time. This is a far cry from the 1,000-acre ownership cap of previous programs. The details of FLEP in South Carolina are still being worked out. More information on FLEP is available at your local South Carolina Forestry Commission office.

Another program forest landowners should take a close look at is EQIP. This is a voluntary conservation program that provides incentive

payments to NIPF owners to treat soil, water and related natural resource concerns on eligible land. To be eligible for up to 75 percent cost-share payments, landowners must have an approved EQIP plan of operations, which could possibly be developed by owners with the help of the Natural Resources Conservation Service (NRCS) or other certified providers. The State Technical Committee will advise the NRCS State Conservationist on what conservation practices will be eligible for financial assistance. In the past, eligible practices have included filterstrips, farm nutrient management, waste management systems, grassed waterways, vegetative buffers, prescribed grazing and wildlife habitat enhancement. There is a continuous signup underway for EQUIP.

The Conservation Reserve Program (CRP), administered by the Farm Service Agency (FSA), helps farmers and landowners safeguard land from soil erosion, increasing wildlife habitat and protecting ground and surface water by reducing water runoff and sedimentation. There is a continuous signup for buffer strips underway and the possibility of a regular signup may come later.

The Wildlife habitat Incentive Program (WHIP) provides technical and financial assistance to landowners who want to develop and improve wildlife habitat on private lands. There is a continuous signup underway.

The Wetlands Reserve Program (WRP) provides technical and financial assistance to eligible landowners to restore wetlands and improve wildlife habitat. A long-term conservation easement is required. There is a continuous signup underway.

For additional information on these and other USDA programs, contact your local office of the Natural Resource Conservation Service or visit them on the web at http://www.sc.nrcs.usda.gov.

Management by Objectives: Successful Forest Planning

You'll be more successful with your forest property if you manage it according to a clear plan. Whether you grow trees, tulips or turkeys, a management plan helps save time and money while increasing returns and enjoyment. Therefore, the clearer your destination (or objectives), the greater chance for success.

Plans Set Direction

Since forests take years to grow, today's decisions can have long term impacts and benefits. A plan analyzes and assesses options, allowing a landowner to select the best course of action and achieve desired objectives. A plan includes a time line or sequence to implement management activities.

Many non-timber goals can be planned simultaneously. Protecting water quality, wildlife habitat, aesthetics and other critical resources is possible with little expense if strategically planned before a harvest. Timber harvests create open areas and road access that can improve wildlife habitat, provide for recreation, and enhance natural beauty. Careful planning of management activities can even assure a periodic income stream.

Effective Plans Begin With You

The first step in planning is to understand land capabilities and meld these with future family goals. It is essential to evaluate the constraints, resources, and priorities of current owners and heirs. Defining objectives should not be an exercise for its own sake, but rather a way to focus activities on reaching desired outcomes.

Begin with a realistic appraisal of your skills, resources and time constraints. Consider interests, income needs, family situation, proximity to the property, and philosophy about land ownership,

the environment, and other factors that will influence decisions that are made.

The three profiles that follow illustrate some of the wide range of goals and interests that landowners have for their forests. Use these profiles to help define your situation and formulate primary management goals and objectives.

Goals

Goals are statements of desired outcomes or future conditions. In the following profiles, landowners describe the "big picture" vision for the property, then refine them into several working objectives. Goals are typically broad and open-ended. They must reflect true desires and be achievable. In all cases they must be compatible with the resources available and the potential of the property.

Goals reflect the long term view of forest management. For instance, a typical landowner goal may be:

To manage mature hardwoods for high quality sawtimber and for squirrel and turkey habitat.

Presently the landowner's hardwoods are only 35 years old, therefore reaching that goal will entail a minimum of two decades.

After goals are written, the next step is to draft objectives.

Objectives

Objectives are written to accomplish concrete steps toward each goal. Objectives refine goals into workable tasks. Each objective is specifically written to state what is to be accomplished, when it will be done, and at what cost. It is important to set realistic, achievable objectives, especially when beginning to manage a property. Start off slow and build upon initial successes. For instance, if a goal is to produce pine sawtimber for future sale and presently the trees are 16 years old, reasonable objectives might be:

YEAR 2: To commercially thin pine stand to remove one third of the tree volume as pulpwood. Sale to be made by contract through a consulting forester.

YEAR 4: Conduct a prescribed burn in the thinned pine stand in winter months to reduce fuel load, control hardwood sprouts, improve access for foot travel, and stimulate low-growing vegetation for wildlife food. Cost per acre $10 $12.

YEAR 9: Thin pine stand to remove one quarter volume as small sawtimber and chip 'n saw material. Contract sale to be handled by consulting forester.

Tips For Successful Objectives

When drafting objectives, be sure that they:

- Are specific and precise
- Are measurable
- Specify a target date of completion

The Management Plan

Plans can change, and management plans should be flexible to accommodate changes in priorities and needs. A questionnaire follows that will help you develop priorities and objectives for your forest property.

Once you have your ideas and priorities established, begin writing a management plan with a goal, or "the big picture." Follow with three or four realistic objectives. Refer to the examples in the landowner profiles below for help.

Don't plan alone! Seek the advice of natural resource professionals with experience in the resources you are hoping to manage. Talk with foresters, wildlife biologists, Extension agents, private consultants, or members of the state forestry commission. Discuss ideas with them and learn from their experiences. What has worked? What has not?

Professionals deal in resource management daily and are familiar with local conditions. Many times, they can arrange for an on-site visit of your property. They can also verify that your goals and objectives are compatible with soil capabilities, markets, and ownership acreage. If compatible, a management

plan can be developed. If not compatible, you should reevaluate your goals and objectives.

Three Forest Landowner Profiles

"Bob and Audrey"

Age: Early 60's

Income Needs: Taxes and property upkeep, Living costs

Tract size: 250 acres

Distance to Property: resident

Interests: Walking, gardening, visits from grandchildren

Family: 3 adult children, 7 grandchildren

Constraints: Not physically capable of conducting manual work. Need timber revenue to carry all management costs. Fixed retirement income.

Goals (the Big Picture):
"We want to leave the property better than when we received it. To harvest some timber now but leave a productive, valuable forest in place to enjoy."

Objectives:
Improve the attractiveness of the forest edge visible from the residence by thinning large, poorly formed trees during next harvest.

Thin one half of large sawtimber in mature pine stand to generate approximately $1500 per acre for living expenses, taxes, and upkeep.

Improve recreational access by reseeding logging roads with clover and orchardgrass following the harvest. Mow annually to provide a clear walking path.

"Lil and Mike"

Age: Early 30s

Income Needs: Upkeep of summer residence

Tract size: 40 acres

Distance to property: 140 miles

Interests: Mountain biking, hiking, wildlife observation

Family: Married, no children

Constraints: Can do limited physical work (trails/ firewood/wildlife operations). Could afford private

Establishing Priorities For Your Forest Plan

Establish priorities and develop objectives for managing your land by answering these questions.

1. My property is used for:
   ____primary residence ____weekend retreat
   ____agriculture ____recreation
   ____investment (timber) ____future development
   ____other (list)

2. Acreage _____ total
   _____ woodland
   _____ pasture or cropland

3. Priorities for the property:
   ____timber management (____pine ____hardwood ____mixed)
   ____wildlife management (____hunting ____observation)
   ____recreation/beauty
   ____water protection
   ____soil conservation
   ____other (list) _____

4. Activities that you use the property for:
   ____bird watching ____biking ____hiking
   ____firewood ____fishing ____camping
   ____horseback riding ____hunting ____boating
   ____nature walks ____wildlife observation
   ____other (list)_____

contractors to operate equipment and improve the property.

Goals (the Big Picture): "We'd like to have the property look like a park, a place where wildlife can flourish without harm. We'd like to have the property reflect our love of the environment."

Objectives:
Build a 1/2 mile exercise and nature trail in Year 1.

Plant three dozen dogwoods and native shrubs on field edge for spring blossoms and to attract songbirds in fall of Year 2.

Establish three 1/2 acre clover patches for rabbits and quail in lower field by Year 3.

Annually mark and remove one-half acre of undesirable, poorly formed trees for firewood in front hardwood stand.

"Sam and Joanne"

Age: Early 40s

Income Needs: College, tuition for kids, retirement

Tract size: 125 acres

Distance to Property: 7 miles

Interests: Farming, hunting

Family: Married; 2 teenaged boys, 1 college freshman girl

Constraints: Have the equipment and manpower to make wildlife/timber and other resource improvements. Would like to subsidize most operations with revenues from timber operations.

Goals (the Big Picture): "We view our family forest as a revenue and recreation producer, where hunting takes place and farming income is supplemented with timber production."

Objectives:
Establish 75 foot field borders with kobe lespedeza in spring of Year 1 to control soil erosion and benefit deer.

Harvest 30-acre block of mature pine timber by sealed bid sale through a forestry consultant in Year 2. Replant with genetically improved loblolly pine seedlings at 10 foot by 10 foot spacing with farm help in winter of Year 3.

Control burn remaining 30 acre mature pine stand to reduce hardwood brush and increase deer browse in winter of years 4, 7, and 11.

Where To Go For Forestry Assistance

Bill Stanton, Extension Forestry Specialist (Retired)
Rick A. Hamilton, Extension Forestry Specialist
North Carolina Cooperative Extension Service

For the South Carolina woodland owner there is technical and financial assistance available for the management of forest lands. Much of this help is free and can be obtained at county extension and forestry offices. If they cannot offer the services or information requested, they can refer you to the appropriate sources.

Clemson University Cooperative Extension Service

This agency serves as a central point for "out of school" training and informal education in forestry and related resources. In the transfer of new technology and information, it provides problem oriented education as well as feedback to researchers concerning problems of forest landowners. Information is transferred through newsletters, publications, meetings, news media and county forestry associations. Extension also establishes and maintains observation or demonstration plots for short and long term forestry studies. It works closely with other forestry agencies and industry. The forest resources extension system is staffed with eight state specialists based in Clemson, two area forestry agents in Colleton, and Orangeburg Counties, three county forestry agents in McCormick, Newberry and Oconee Counties and an agent with forestry responsibility in each county. County offices are listed under county government, Cooperative Extension Service, or Clemson Extension in telephone directories. You may also check the Extension Forestry webpage at: www.clemson.edu/extfor.

The South Carolina Forestry Commission

The South Carolina Forestry Commission maintains field offices in 46 counties that are grouped into 3 regions. Project foresters provide on-the-ground assistance with management planning and other forestry problems. They offer marketing advice and maintain a current list of buyers of forest products as well as a list of consulting foresters. Seedlings are offered for sale at low costs from their nursery. They constantly monitor fire and weather conditions and are on call at all times preventing, detecting, and suppressing forest and wildland fires. One of their major fire prevention programs is the controlled or prescribed use of fire for hazard reduction. There is a modest fee on a per-acre basis for this service. Another of their fee services is the marking and tallying of pulpwood and timber for selective harvesting. Mature timber and boundary sales cruises are referred to consulting foresters. On-farm assistance to any one landowner is limited to 5 workdays per year. The South Carolina Forestry Commission also certifies the need for and administers the funding for forestry practices under the South Carolina Forest Renewal Program (FRP) and the new Forest Land Enhancement Program (FLEP). Personnel are listed in the telephone directory under county forest ranger or South Carolina Forestry Commission offices. You can also check their website at: www.state.sc.us/forest/.

Farm Service Agency

This federal agency also has cost share assistance programs for land preparation and tree planting. Funds for their Agricultural Conservation Program (ACP) and the Conservation Reserve Program (CRP) will vary with federal appropriations, and it would be well to check with the county offices for available monies. They can be located under U. S. Government, Department of Agriculture, Farm Service Agency. You can also access the South Carolina Farm Service Agency website at: www.fsa.usda.gov/sc.

Natural Resources Conservation Service

Technical assistance in soil and water management may be requested from the Natural Resources Conservation Service. They help farmers and other land users plan and apply conservation systems that protect the land and improve production. From their soil surveys, they suggest which trees are best suited to particular soil types and potential production. In addition, they administer the cost-share programs that include: the Environmental Quality Incentives Program (EQUIP), Wetland Reserve Program (WRP), and the Wildlife Habitat Incentives Program (WHIP). A listing for their county office can be found under U.S. Government, Department of Agriculture, Natural Resources Conservation Service. You can also check their website at: www.sc.nrcs.usda.gov.

Quick-Reference List of Natural Resource Websites

Clemson Extension Forestry	www.clemson.edu/extfor
Clemson Extension Wildlife	www.clemson.edu
Southern Region Extension Forestry	www.soforext.net
Forestry Index.Net	www.forestryindex.net
Private Forest Management Team	www.pfmt.org
South Carolina Department of Natural Resources	http://water.dnr.state.sc.us/
South Carolina Forestry Commission	www.state.sc.us/forest
USDA Natural Resources Conservation Service-SC	www.sc.nrcs.usda.gov
USDA Farm Service Agency-SC	www.fsa.usda.gov/sc
Society of American Foresters	www.safnet.org
The Wildlife Society	www.wildlife.org
National Agroforestry Center	www.unl.edu/nac
South Carolina Forestry Association	www.scforestry.org
Tree Farm Program	www.treefarmsystem.org
South Carolina Wildlife Federation	www.scwf.org
Forest Landowners Association	www.forestland.org
Quality Deer Management Association	www.qdma.com
National Wild Turkey Federation	www.nwtf.org
Quail Unlimited	www.qu.org
Ducks Unlimited	www.ducks.org
South Carolina Waterfowl Association	www.scwa.org

South Carolina Department of Natural Resources

For those forestland owners interested in wildlife, assistance and information is available from this agency. Regional Wildlife Biologists are available to provide technical guidance to landowners interested in improving habitat for both game and nongame wildlife on their property. Their Cooperative Deer Management Program has 2,000 landowners and hunt clubs enrolled. Conservation officers are available to assist landowners with controlling illegal hunting on their lands. Agency personnel in each county are listed under the South Carolina Department of Natural Resources. You can also check their website at: http://water.dnr.state.sc.us.

Consulting Foresters

Consultants provide a key service for woodland owners who need to hire professional assistance, particularly in marketing. Their services may cover all forestry problems and forms of assistance. The consultant is able to act as an agent in timber sales and monitor sales to assure the owner that contract terms are met. A list of forestry consultants may be found at the local county agent or county project forester's office.

Wood Using Industries

Many wood using industries offer forest landowner assistance programs. Industry foresters will assist with management planning and many have company contractors who do site preparation and seedling planting at a specified cost. In exchange for services rendered, the company will usually request an option to purchase timber at competitive prices. Local Extension offices can supply names of industries with assistance programs.

South Carolina Forestry Association

This nonprofit organization was formed in 1968 to advance the intelligent use of the state's resources. Membership is open to all interested persons, and annual dues for individuals are $40 (active), except for students, $15/year. The South Carolina Forestry Association sponsors the state's tree farm program, which gives public recognition to those private

Upcoming Events

Meetings/Courses	June 4-5	Terrestrial Plant Invasions in the Temperate South: The Problem, Consequences, and Taking Control. Hyatt Regency Greenville, Greenville, SC. For more information call 864/656-4842 or go to www.clemson.edu/extfor.
	August	Forestry Herbicide Workshop, a continuing education course by Clemson University Extension Forest Resources. More details to be announced later. Go to www.clemson.edu/extfor to look for upcoming information.
Landowner Association Meetings	May 22	Greenwood County Forestry Association and Greenwood County Soil and Water Conservation District meeting. 6:00 pm. Catfish fry and program on Forestry Markets and Small Game Management at John Rogers Farm. Call 864/942-8590 or 864/465-2112.
	May 29	Abbeville County Forest Landowner Association Meeting. 7:00 pm. Barbeque and program on Pine Beetles at Abbeville County Office Building, Abbeville. Call 864/465-2112 or 864/459-4106.

COOPERATIVE EXTENSION SERVICE
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CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA 29634-0110

timberland owners who are doing an outstanding job in managing their forested acres, thereby encouraging others to do likewise. Requests to this association may be made to PO Box 21303, Columbia, South Carolina 29221-1303 or go to their website: www.scforestry.org.

The Forest Landowners Association

This nonprofit grassroots organization was formed in 1941 to speak for timberland owners at local, regional, and national levels, and encourage them to practice sound forest management. The Forest Landowners Association publishes the *Forest Landowner Magazine six* times a year, a *Forest Landowner Manual* every other year, providing a directory of wood buyers, consultants, extension and public forestry agency personnel and a *Washington Update* newsletter. Membership is open to all interested persons. Dues for individuals are $40. Requests to this association may be made to PO Box 95385, Atlanta, Georgia 30347 0385 or go to their website: www.forestland.org.

Questions about this newsletter, submissions and requests for subscriptions should be directed to: Editor, *Forest Steward* Newsletter, Clemson University Cooperative Extension Service, Department of Forest Resources, 272 Lehotsky Hall, Box 340331, Clemson, SC 29634-0331. Phone: 864/656-2479.

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The South Carolina Forest Steward Newsletter is sponsored by the Forest Stewardship Program in South Carolina. For more information on the Forest Stewardship Program, contact Ron Ferguson at the South Carolina Forestry Commission, 803/896-8846. *The South Carolina Forest Steward* is compiled and edited by Larry Nelson, Extension Forester at Clemson University, and Bob Franklin, Area Forestry & Wildlife Agent, Walterboro, South Carolina.